GASTROINTESTINAL TUMORS

Which of the following staging studies for esophageal cancer is considered definitive for determining initial tumor depth? (A) Endoscopic ultrasoundography (B) Computed tomography (C) Magnetic resonance imaging (D) Positron emission tomography

Which of the following statements about treatment of esophageal cancer is true? (A) Neoadjuvant therapy is never necessary in patients with stage 0 or I disease (B) Significant benefit derived with chemotherapy or radiation therapy (RT) alone (C) Tumor recurrence is common in patients who appear cancer-free after undergoing combination therapy without surgery (D) Neoadjuvant therapy not yet considered standard of care

Surgery may be delayed for a maximum of _______ in patients with esophageal cancer who have responded to neoadjuvant therapy. (A) 2 to 3 wk (B) 10 to 11 wk (C) 12 to 14 wk (D) 3 to 4 wk

Currently, the most common approach to esophagectomy is: (A) Ivor-Lewis (B) Transthoracic (C) Transhiatal (D) Thoracoabdominal

Which of the following statements about gastric cancer is true? (A) Tenth-leading cause of cancer mortality worldwide (B) 5-yr survival steadily increasing since 2000 (C) Asian ancestry is associated with best prognosis (D) No relationship with Helicobacter pylori infection

All the following are characteristics of intestinal rather than diffuse gastric cancers, except: (A) Greater differentiation (B) More distal location (C) A and B (D) Younger patient population

Performing endoscopic ultrasoundography in the diagnostic work-up for patients with gastric cancer: (A) Frequently changes management decisions (B) Is less accurate in those with a history of neoadjuvant chemotherapy (C) A and B (D) Neither A nor B

Among patients with esophageal cancer who received 5-fluorouracil, oxaliplatin, and RT: (A) No improvement was seen in pathologic complete response (PCR) rates (B) Many developed severe unmanageable toxicity (C) The PCR rate after central pathologic review was lower than the initial calculation (D) Acute respiratory failure was a common adverse effect

Patients receiving short-course radiotherapy for rectal cancer after mesorectal excision had toxicity that was _______ than in patients treated with standard preoperative chemoradiotherapy. (A) Greater than (B) Less than (C) Equivalent to

Patients with anal cancer treated with intensive-modulated RT had lower toxicity, but higher failure rates, than patients who received conventional RT. (A) True (B) False

Answers to Audio-Digest Oncology Volume 02, Issue 08: 1-C, 2-B, 3-B, 4-A, 5-A, 6-B, 7-D, 8-B, 9-B, 10-D

Esophageal Cancer
Alex G. Little, MD, Clinical Professor of Surgery, University of Arizona School of Medicine, Tucson

Staging studies: computed tomography (CT) — cannot determine tumor depth (DT) does not help stage primary tumor; good specificity for regional lymph nodes; sensitivity poor; same true for CT of T1 and T2 nodes; low sensitivity for distant metastases; endoscopic ultrasoundography (EUS), with or without fine needle aspiration (FNA) biopsy — use of FNA becoming increasingly common; staging system changed with introduction of EUS; definitive for determining tumor depth (T1 to T4); specificity for regional lymph nodes 70% (no better than CT), but sensitivity 80%, especially with addition of FNA; specificity for cervical nodes 96% (similar to CT); sensitivity 85%; provides "reasonably accurate" assessment of regional lymph nodes as well as primary tumor; positron emission tomography (PET) — good sensitivity and high specificity; can prevent performing esophagectomy in patients who already have mediastinal disease; sensitivity for metastases 71%; specificity 93%; sensitivity for regional lymph nodes 57%; specificity 85%

Multimodality therapy: current standard of care, due questions about quality of evidence supporting use Contraindications to surgery: for palliation (stenting being used instead); incurable disease (curative surgery "modest") in patients with stage III cancer; after chemotherapy (CTX) and radiation therapy (RT) in high-risk patient Neoadjuvant therapy: patients with stage 0 or I disease may not benefit; however, definitive staging may be performed before surgery, so multimodal approach indicated for all patients (responder's much better outcomes than nonresponders); neoadjuvant CRT alone of modest benefit; maximum benefit obtained from combination of RT and CTX (current standard of care for most patients); cancer found in 25% of patients operated on after combination neoadjuvant therapy (raises question of necessity of surgery; however, tumor recurrs in most patients with complete response to neoadjuvant therapy)

Restaging after neoadjuvant therapy: responsive patients should proceed to surgery within 4 to 6 wk (earlier surgery may produce excessive blood loss); at 6 to 10 wk, shift from in-flammation to fibrosis in treated tissues; surgeon suggests 90-95% of patients operated on after combination chemotherapy (CTX) and radiation therapy (RT) in high-risk patient Neoadjuvant therapy: patients with stage 0 or I disease may not benefit; however, definitive staging may be performed before surgery, so multimodal approach indicated for all patients (responder's much better outcomes than nonresponders); neoadjuvant CRT alone of modest benefit; maximum benefit obtained from combination of RT and CTX (current standard of care for most patients); cancer found in 25% of patients operated on after combination neoadjuvant therapy (raises question of necessity of surgery; however, tumor recurrs in most patients with complete response to neoadjuvant therapy)

Restaging after neoadjuvant therapy: responsive patients should proceed to surgery within 4 to 6 wk (earlier surgery may pro-duce excessive blood loss); at 6 to 10 wk, shift from in-flammation to fibrosis in treated tissues; surgeon recommends maximum delay of 10 to 11 wk after neoadjuvant therapy; restaging — due to low sensitivity and specificity, CT cannot differentiate between tumor and inflammation; EUS less accurate than with original staging; also difficult to distinguish be-tween residual tumor and inflammation; PET — helpful, especially for identifying new metastases or progressive disease; outcomes better if standard uptake value decreases >8%, compared to first PET (useful to know extent of decrease when choosing operation)

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Currently, the most common approach to esophagectomy is: (A) Ivor-Lewis (B) Transthoracic (C) Transhiatal (D) Thoracoabdominal

GASTROINTESTINAL TUMORS

Educational Objectives
The goal of this program is to improve the management of gastrointestinal cancer. After browsing and assimilating this program, the clinician will be better able to:

1. Use appropriate diagnostic imaging for patients with esophageal cancer.
2. Choose the best surgical and neoadjuvant therapeutic approaches for treatment of esophageal cancer.
3. Evaluate evidence supporting a multimodal approach to treatment of gastrointestinal cancer.
4. Explain the risks and benefits of chemoradiotherapy in patients with gastrointestinal cancers.
5. Consider the results of recent trials in selecting thera-pies for patients with gastrointestinal cancers.

Faculty Disclosure
In adherence to ACCME Standards for Commercial Support, Audio-Digest requires all faculty and members of the planning committee to disclose relevant financial relationships within the past 12 months that might create any personal conflicts of interest. Any identified conflicts were resolved to ensure that this educational activity promotes quality in health care and not a proprietary business or commercial interest. For this program, the faculty and planning committee reported nothing to disclose. In his lecture, Dr. Mackley presents information that is related to the off-label or investigational use of a therapy, product, or device.
Gastric Adenocarcinoma

Waddell B, Al-Refaie, MD, Assistant Professor; Division of Radiation Oncology, University of Kentucky College of Medicine, and St. Joseph, Nashville Veterans Affairs Medical Center

Epidemiology: second-leading cause of cancer deaths worldwide; incidence has increased in United States over last 3 decades; overall 5-year survival unchanged at 23%; white patients predom-

inantly >70 yr of age with proximal disease; black and His-

panic patients present with stage IV disease; Asian patients also present at young age, frequently have distal tumors and stage I disease; Japanese patients had a favorable prognosis at any stage (compared to other races)

Risks: cigarette smoking, Barrett esophagus, Helico-

bacter pylori infection, gastric polyps, familial history in <5% of pa-

tients), pernicious anemia, and mutation in gene coding for E-

cadherin (especially in patients with family history of gastric cancer)

Lauren histologic classification: intestinal—patients usually older; tumors usually distal, moderately differentiated histologically; prognosis more favorable; diffuse — younger patients usually佟lar by the time of presentation; highly anaplastic, with worse prognosis (may be prognosis of myth that younger pa-

tients have poorer prognosis in general; in stage-by-stage anal-

ysis, prognosis worse and possibly better among treated younger patients)

Diagnostic work-up: history and physical examination; empha-

sized comorbidities, performance status, and normal pa-

tients; laboratory data emphasize prealbumin and albumin levels; upper gastrointestinal (GI) endoscopy im-

portant (should be performed or witnessed by surgeon); EUS helps with proximal disease, but rarely changes man-

agement of these; ERCP is indicated for bile duct rule out meta-

stase; staging laparoscopy to compensate for the limitations of EUS

UP GI endoscopy: to identify tumor location, especially re-

lationship to gastroesophageal (GE) junction; also helps de-

termine whether esophageal resection necessary, extent of margins, and sequence of therapy; identifies limits plastic, insu-

ance of GE junction; EUS helps with proximal disease, but rarely changes man-

agement of these; ERCP is indicated for bile duct rule out meta-

stase; staging laparoscopy to compensate for the limitations of EUS

Risk factors: bacteri pylori, pernicious anemia, and mutation in gene coding for E-

cadherin (especially in patients with family history of gastric cancer)

Liver metastases: — patients usually older; tumors usually distal, moderately differentiated histologically; prognosis more favorable; diffuse — younger patients usually佟lar by the time of presentation; highly anaplastic, with worse prognosis (may be prognosis of myth that younger pa-

tients have poorer prognosis in general; in stage-by-stage anal-

ysis, prognosis worse and possibly better among treated younger patients)

Multidisciplinary: initial work-up: determine extent of disease (local, locoreg-

ial, metastatic); determine whether medically fit and whether dis-

ease treatable

Treatment: R0 gastrectomy with adequate lymphadenectomy, systemic CTX, and RT; R status reflects resection margin; R0 — microscopically negative; R1 — microscopically positive; R2 — gross residual disease; R0 resection should include 5- to 6-cm negative proximal margins and distal margins of 1 cm from the tumor; proximal and distal margin; for distal tumors, subtotal gastrectomy associated with similar oncologic and better nutritional outcomes; lymphadenectomy: ensure that patient has at least R0 re-

section, with removal of >25 lymph nodes; extent of lymph-

adenectomy controversial; D0 considered unacceptable; >15 nodes needed (equivalent to N3 disease); actual number of nodes depends on pathologist, surgeon, pathologist, and hospital American Joint Committee on Cancer Staging System: revised in 2010, N3 disease now considered stage III instead of stage IV; treatment is achieved by CTX alone; Sequence of treatments: neoadjuvant or postoperative adju-

vant, postoperative CRT — best advantage for recurrence, and systemic CTX to decrease risk for distant metastases; in Southwestern Oncology Group trial, >600 patients randomized to R0 resection and adjuvant CRT (neoadjuvant followed by CTX with 5-fluorouracil (5FU) and chemotherapy) or postopera-

tive CRT (neoadjuvant followed by CRT); postoper-ative mortality 5%, median survival associated with ad-

junctive therapy 36 mo, compared to 27 mo without adjuvant therapy; operative morbidity greater than 15% of patients underwent D0 lymphadenectomy (unsatisfactory), critics questioned whether adjuvant therapy compen-

sated for inadequate surgery, or whether benefit due to treatment of undiscovered node-positive disease; subse-

quent studies offered neoadjuvant therapy, then surgery; re-

sults for neoadjuvant CRT: therapy for occult metastases; may increase chance of R0 resection; better pa-

tient selection due to observation of tumor response to neoadjuvant chemotherapy

Suggested Reading


Locally advanced pancreatic cancer: study — full-dose gem-

citabine + cisplatin and radiation therapy in patients with and without previous adenocarcinoma of the pancreas; in both groups, a lower rate of disease recurrence and a longer median progression-free survival (PFS) were associated with modest advantage in progression-free survival (PFS); no difference in toxicity reported; goal was to downstage for resection; in the neoadjuvant arm, 4% achieved a CR; CRT results limited, but offer hope for cure; addendum — second study showing survival advantage of gemcitabine CRT in pancreatic cancer; Radiation Therapy Oncology Group (RTOG) study (in progress) — patients treated with either CRT or CRT + gemcitabine CRT tested against 5FU CRT vs observation; Surveillance Epidemiology and End Results Cancer Surveillance Study: conclusions pertain to pancreatic cancer; study — positive results seen with low-dose RT as potentiating agent for gemcitabine

Audio-Digest Foundation thanks the speakers and the sponsors for their cooperation in the production of this program.

Acknowledgements

Drs. Little and Al-Refaie were recorded at 2nd Annual General Surgery Update, held January 13-15, 2011, in Las Vegas, NV, and sponsored by the Foundation for Surgical Education. Dr. Mackley was recorded at 12th Annual ASTRO Review 2010, held December 9, 2010, in Atlanta, GA, and sponsored by the American Society of Therapeutic Radiology and Oncology. The Audio-Digest Foundation thanks the speakers and the sponsors for their cooperation in the production of this program.

Low locally advanced pancreatic cancer: study — full-dose gem-

citabine + cisplatin and radiation therapy in patients with and without previous adenocarcinoma of the pancreas; in both groups, a lower rate of disease recurrence and a longer median progression-free survival (PFS) were associated with modest advantage in progression-free survival (PFS); no difference in toxicity reported; goal was to downstage for resection; in the neoadjuvant arm, 4% achieved a CR; CRT results limited, but offer hope for cure; addendum — second study showing survival advantage of gemcitabine CRT in pancreatic cancer; Radiation Therapy Oncology Group (RTOG) study (in progress) — patients treated with either CRT or CRT + gemcitabine CRT tested against 5FU CRT vs observation; Surveillance Epidemiology and End Results Cancer Surveillance Study: conclusions pertain to pancreatic cancer; study — positive results seen with low-dose RT as potentiating agent for gemcitabine

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AAFP (American Academy of Family Physicians)" suggests for Category 1 credit for 3 years from the date of publication.

California Board of Registered Nursing (CBR) accepts the following courses provided for AMA Category 1 credit as meeting the continuing educa-

tion requirements for license renewal:

Expriation: This CME activity qualifies for Category 1 credit for 3 years from the date of publication.

Cultural and linguistic resources:

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(A) True
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